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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,852	08/23/2002	Scott R. Parent	08EB3121-2	4590

23413 7590 09/01/2004

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EXAMINER

JARRETT, RYAN A

ART UNIT	PAPER NUMBER
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2125

DATE MAILED: 09/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

OK

Office Action Summary	Application No. 10/064,852	Applicant(s) PARENT ET AL.	
	Examiner Ryan A. Jarrett	Art Unit 2125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-6,8-14,16,19-21 and 23-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8 and 23 is/are allowed.
- 6) ☒ Claim(s) 1,4-6,9-14,16,19-21 and 24-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Response to Arguments***

1. Applicant's arguments filed 7/21/04 have been fully considered but they are not persuasive. Applicant argues, "Riley fails to teach or suggest using two types of output parameters, one of which can initiate tuning of a control model while another does not." However, the first output parameter (or parameters) is depicted, for example, in Fig. 15 #1520, and discussed in [0095]. The monitoring of this parameter or parameters initiates tuning of the model (e.g., Fig. 15 #1560). The second output parameter (or parameters) is discussed in [0044]. Sensor data (including pyrometer trace readings indicative of workpiece temperature, e.g. [0030]-[0034]) is used to alert an engineer of the need to adjust the processing parameters and/or setpoints. There is no suggestion that this monitored sensor data is used to tune the model.

Claim Objections

2. In claim 8 line 1, "method" should be changed to "computer-implemented method" in order to comply with 35 U.S.C. 101. The method currently recited does not require computer implementation or the use of technology to accomplish, and does not necessarily produce repeatable concrete results.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 4-6, 9, 10, 12, 16, 19-21 and 24-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Riley et al. US 2002/0107604. Riley et al. discloses a method, system, and a storage medium encoded with a computer program for enhancing process control, the method comprising: initiating a manufacturing process to create a product, wherein said initiating includes setting a control on a machine in response to said initial system model (e.g., Fig. 15 #1510, [0073]-[0077]); and tuning said manufacturing process in response to the initial system model, said tuning comprising: running said machine in response to the initial system model (e.g., Fig. 15 #1510, [0073]-[0077]); monitoring a primary output parameter of said product (e.g., Fig. 15 #1520); and performing an adaptation process while said machine is running, the adaptation process including: adjusting said control on the machine (e.g., Fig. 15 #1540); updating said initial system model to define an updated system model in response to said adjusting said control (e.g., Fig. 15 #1560); and running said machine in response to said updated system model (e.g., [0095]-[0102]);

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wherein said adaptation process is initiated in response to said primary output parameter being outside of a selected primary output parameter value range; monitoring a secondary output parameter of said product; and alerting an operator if said secondary output parameter is outside of a selected secondary output parameter value range to suggest a process adjustment without initiating said adaptation process; wherein said monitoring a secondary output parameter includes displaying a current value for said secondary output parameter; wherein said alerting includes recommending a corrective action to said operator (e.g., [0030]-[0032], [0044], [0047], [0078]-[0080], [0097]);

further comprising creating a process control report; wherein the process control report includes production data and yield loss data (e.g. [0078]-[0090], [0185]).

Claims 25-29 are clearly anticipated (e.g., Figs. 3-14).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 11, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Riley et al. as applied to claim 9 above, and further in view of Official Notice. Riley et al. does not explicitly disclose that the process control

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report includes downtime data, system maintenance data, and change order data. However, Examiner takes Official Notice that it is well known to incorporate this data into a process control report for obvious and well-established reasons. So it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the process control report of Riley et al. to include these features.

Allowable Subject Matter

7. Claims 8 and 23 are allowed. The following is an examiner's statement of reasons for allowance:

The prior art obtained by the examiner fails to teach or fairly suggest creating a second system model that is a copy of an initial system model that was used on a first manufacturing machine: initiating a second manufacturing process on a second manufacturing machine to create the same type of product that was manufactured on the first machine, wherein the initiating of the second manufacturing process includes setting a control on the second machine in response to an input value included in the second system model; and tuning said second manufacturing process in response to the second system model, in combination with the remaining features and elements of the claimed invention.

Riley et al. does teach that an initial model, or control thread, can be used to establish initial settings on a machine for a current wafer lot. However, the initial model, or control thread, is only used when there have been one or more previous wafer lots that have been processed under the exact same conditions.

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as the current wafer lot ([0077]). These conditions include the **current processing tool**, current operation, product code, and previous processing step ([0075]). Thus, in Riley et al., the same initial model can only be copied for a second product when that second product is processed on the **same** machine as that of a first product. In the applicant's invention, the initial model is copied to a second, different machine.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan A. Jarrett whose telephone number is (703) 308-4739. The examiner can normally be reached on 10:00-6:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on (703) 308-0538. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

8/29/04



Ryan A. Jarrett
Examiner
Art Unit 2125

LEO PICARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100